REMARKS

Claims 6-12 and 14-20 are pending in the application. Claims 6, 14-15 and 18-19 are being amended. The amendment to claim 6 and 14 is supported by Fig. 4 and its description in paragraph [0046] of the patent application as published.

All outstanding requirements will now be addressed in the order they appear in the Office Action mailed November 13, 2008.

4. The Examiner is of the opinion that claim 14 as amended to recite "retrieving all data, according to identified parameters, from the carousel of objects" and "storing the data being retrieved" can be interpreted to mean that all data that have a specific PID number are retrieved from the carousel of objects and not necessarily all data.

Accordingly, Applicant has amended claim 6 and claim 14 by specifying that the step of retrieving all data, from the carousel of objects, occurs within a single cycle 401, 410 of the carousel of objects. This amendment is supported by Fig. 4 and its description which reads in paragraph 0046 of the published patent application, as follows:

> *"... the modules are retrieved from the stream one by one, as they are broadcasted..."*
>
> *"... The whole operation occurs in the time marked as 410. Only later they are analyzed. Thanks to that, the time needed to update the data is reduced to the indispensable minimum and a much shorter start-up time is ensured for the applications operating in the receiver, in case they need an exchange of modules..."*

As defined by 401 and 410, a cycle can start anywhere in time and last until all data of the carousel of objects have been received without being repeated. Prior art solutions require more than a single cycle 409 in order to obtain dependent modules of a hierarchy.

With respect to claim 20, Applicant respectfully notes that the passage of "...filter for passing all data related to the carousel of objects ..." is not contrary to previous arguments since the parameters of the filter are such that all data of the carousel are passed.

The filter is required since data of a carousel is only a fraction of data of a transport stream. That is the reason for setting up a filter according to given parameters.

Moreover, in a typical DSM-CC carousel it is allowed that different modules may have different PID numbers assigned. Hence a filter requirement when all data of a carousel are concerned. As support, Applicant includes in Appendix A, pages 325-326, from Digital Video Broadcasting (DVB); Multimedia Home Platform (MHP) Specification 1.0.3, ETSI ES 201 812 V1.1.2 (2006-08), Annex B (normative): Object carousel, B.4 Example of an Object Carousel, http://www.mhp.org/specs/es_201812v010102p.pdf, which recites an example of a carousel wherein modules are identified with 3 different PID numbers PID n, PID n+1 and PID n+2, respectively.

Claims Rejections - 35 USC §112

5. Claims 15, 18, 19 stand rejected under 35 U.S.C. §112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as invention. Specifically, the Office Action states that claims 15, 18 and 19 contain confusing language.

Applicant has amended claims 15, 18, 19 to obviate the Examiner's rejection.

Claims Rejections - 35 USC §102 and 35 USC §103

6-25. Claims 6, 7, 9-12, 14, 15 and 17-19 stand rejected under 35 U.S.C. §102(e) as being allegedly anticipated by Stalker, U.S. Patent Publication No. 2002/0091816, claims 14 and 16-19 stand rejected under 35 U.S.C. §102(b) as being anticipated by Metz et al, U.S. Patent No. 5,768,539, claims 8 and 16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Stalker, US Patent Publication No. 2002/0091816 in view of Chari US Patent No.

6,038319, whereas claims 15 and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Metz et al, U.S. Patent No. 5,768,539 in view of Stalker, US Patent Publication No. 2002/0091816.

Applicant respectfully disagrees that Metz, col. 38, line 33-35, discloses reassembling the modules only after all modules of the application file have been downloaded. Metz merely defines that an application is reassembled when all modules have been downloaded. It does not refer to a method of modules download and reassembling. The cited passage may only apply to the step of "obtaining content of the modules" as claimed.

Additionally, in order to clarify any doubts and strengthen clarity, Applicant has amended claim 14 and claim 1 by specifying that the step of retrieving all data, from the carousel of objects, occurs within a single cycle 401, 410 of the carousel of objects (vide supra). This is supported by Fig. 4 and its description which reads in paragraph 0046 of the patent application as published.

Therefore, the invention achieves the effect of rapid retrieval of all modules and the effect of avoiding waiting for multiple cycles.

Accordingly, Applicant believes that the claims as amended are not anticipated by Stalker and Metz and are in condition for allowance.

THIS SECTION INTENTIONALLY LEFT BLANK

CONCLUSION

In view of the foregoing amendments and remarks, Applicant submits that the pending claims are in condition for allowance. Early and favorable reconsideration is respectfully solicited. Should an extension of time be required, Applicants hereby petition for same and requests that the extension fee and any other fee required for timely consideration of this submission only be charged to **Deposit Account No. 503182**.

Respectfully Submitted,

Customer Number: **33,794**

/Matthias Scholl/

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Date: February 5, 2009

B.4 Example of an Object Carousel (informative)

The figure below illustrates an object carousel that is distributed over three elementary streams belonging to the same service.

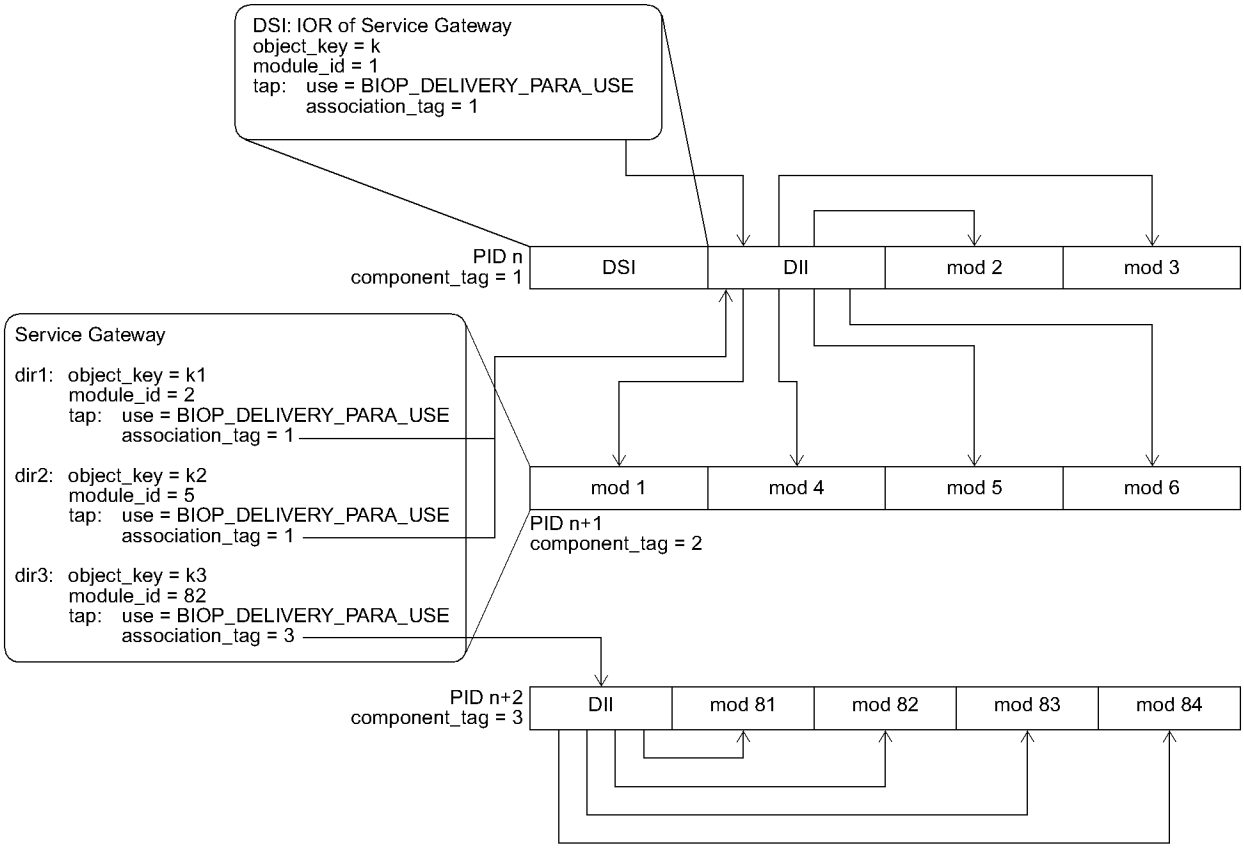

Figure B.2 : Example carousel

The DownloadServerInitiate (DSI) message is carried on the first elementary stream. It contains the object reference that points to the ServiceGateway. The tap with the BIOP_DELIVERY_PARA_USE points to a DownloadInfoIndication (DII) message that provides the information about the module and the location where the module is being broadcasted. In the example, the ServiceGateway object is in the module number 1 that is carried on the second elementary stream (indicated by a BIOP_OBJECT_USE tap structure in the DII message).

The ServiceGateway object is a root directory that, in this example, references three subdirectories. Taps with BIOP_DELIVERY_PARA_USE are used in the object references of the subdirectories to provide links to the modules via the DownloadInfoIndication (DII) message. The two first subdirectories "dir1" and "dir2" are referenced in the DII message that is carried in the first elementary stream. The third subdirectory is referenced in the DII message carried in the third elementary stream.

In this example, the two first elementary streams carry the messages of one logical data carousel while the third elementary stream carries the messages of another logical data carousel. All these belong to the same object carousel. In the example, the third elementary stream contains the objects in the "dir3" subdirectory and the objects in the "dir1" and "dir2" subdirectories are distributed over the first and second elementary stream.

It is important to note that the third elementary stream may originate from a completely separate source than the first two elementary streams. The directory hierarchy and objects contained in the third elementary stream are "mounted" in the root directory by providing the "dir3" directory entry with the appropriate location information.

This type of structure could be used, for example, in a national information service that contains some regional parts. The common national parts could be carried in this example case on the two first elementary streams that are distributed unmodified in the whole country. The regional parts are carried in the third elementary stream that is locally inserted at each region. From the application's point of view, the common national parts are in the "dir1" and "dir2" subdirectories while the regional parts are in the "dir3" subdirectory.

Another example where this type of structure could be used is if the service contains multiple independent applications. In this case, each application could be placed in its own subdirectory and these subdirectories might be carried as separate data carousels on different elementary streams.

B.5 Caching

This section describes the constraints that an MHP terminal compliant with this specification shall implement when caching any content from the object carousel in the memory of the MHP terminal. Caching is optional for the MHP terminal, but if implemented shall conform to the constraints set in this section.

B.5.1 Determining file version

There is no version number directly related to files (or other BIOP messages), the closest association is the moduleVersion in the DII that references the module that contains the BIOP message. Therefore, to ensure that a file is up to date the MHP terminal must determine that the moduleVersion for the appropriate module is current and reacquire if necessary. The circumstances under which this checking is required are defined by the transparency level as specified in the following section.

B.5.2 Transparency levels of caching

The definition of transparency levels describes the behaviour that the MHP terminal shall implement when the content in the object carousel is changing. The transparency level determines how certain the MHP terminal is required to be about the validity of the content when returning the content to the application. The object carousel provides a mechanism for determining version changes of the content by monitoring the DII messages.

Validity of content is specified here in terms of the version number of the module that is broadcast in the DII message. The contents of an object as cached in the memory of the MHP terminal are defined to be valid at a certain point in time when the version number of the module in the cache matches the version number of the module as signalled in the DII message describing that module as it was last broadcast. Note that the definition is based on the DII message that was last broadcast and it may be that the MHP terminal was not filtering for this message at that time and did not receive it.

From the MHP terminal point of view, the transparency level indicates the constraints that the terminal needs to implement for monitoring the DII messages.

The broadcaster can indicate the appropriate transparency level that shall be applied for a given piece of content by using a descriptor associated with a module in the DII message (see "Caching priority descriptor" on page 298). In the absence of this descriptor from a module, the transparent caching is the default level.

B.5.2.1 Transparent caching

The transparent caching is a caching level that ensures that the application can not practically notice a difference in the validity of the returned content between an implementation that caches content and an implementation that does not cache any content. Naturally, an implementation that caches the content will return it to the application faster.

When returning content from the cache to the application, the MHP terminal shall ensure that the version number of the cached content matches the version number indicated in the current DII message describing that module. Once a DII has been received it can be assumed that it is current at least for 500 ms and after that period until receiving the next instance of the relevant DII. If filtering for that DII has not resumed by the end of this period, the state of that DII is to be considered unknown until it is received again.

Therefore, terminals must not return transparently cached data if it has waited more than half a second between receiving the relevant DII and *starting to filter* for that DII again. If the terminal does not resume filtering within the 500ms grace period, it must download the relevant DII again when it wishes to use that DII to check cache validity.

The choice of 500 ms is based on the normal timing uncertainty in data delivery through the broadcast chain and is independent of the repetition rate of the DII messages.